Recreation Suitability and Potential

A sixty-three acre park, Krieg Complex, borders Pleasant Valley Road south of Longhorn Dam and has extensive river frontage, but no formal access or orientation to the river. The 45 developed acres include eight lighted softball fields, restrooms, concession stand, and off-street parking. Multiple-use occurs on four of the developed fields. One of the softball fields is perilously near the riverbank. The undeveloped area includes brushy flatlands with informal trails frequented by hikers, birdwatchers and motorcyclists. A sandy riverside beach may be accessed with some difficulty through the undeveloped area.

A five acre gap exists between Krieg Complex and Grove Park but funds are available to provide the connections. Once completed, a continuous greenbelt would extend from the heart of the city.

Grove Park (Colorado River Park) is located immediately west of the Montopolis Bridge and temporarily has 150 mobile home sites. Projected for development in 1987, this 31 acre scenic area includes a steep bluff overlooking the Colorado River. The interior is flat historic floodplain, and large trees and woodland vegetation are still intact. Country Club Creek flows through the park on its way to the Colorado River. A lift station to the Govalle Wastewater Treatment Plant is situated on the creek bank within the park. Expansion of Grove Park is possible and negotiations are taking place with an adjacent developer.

The only public access in the study area, a ramp at the Montopolis Bridge, is maintained by the Texas Highway Department, but is in need of improvement and on-site management. Deviant behavior has been observed in this vicinity. An excellent opportunity exists to develop this area into a scenic staging area. Undeveloped riverfront and creek edge on the Travis State School property is off-limits to the public. This area may represent an additional oppportunity to provide recreational access and staging.

The recreation potential of the river is excellent due to varied landforms, fishing opportunities, creek confluences and wooded shoreline. Extensive garbage dumping and debris along the shoreline detracts from the natural, scenic qualities.

Water Quality

Below Longhorn Dam, the Colorado River begins its free-flowing status after miles of impoundments in the Highland Lakes chain. Because the water is released from upper reservoirs, it is of good quality and relatively uncontaminated. After storms, urban runoff impacts the river with debris-laden, polluted water.

Water draining the three creeks—Country Club, Boggy and Walnut—is considered to be of fair quality; however after storms the quality deteriorates substantially. As a recipient of the Govalle Wastewater Treatment Plant and resource extraction activities, the river water is contaminated for over a mile.

The river has four distinct water quality complexions: low water clear, low water dirty, released water, and at flood.

Low Water Clear—An especially clear area of narrow river channel water exists from Longhorn Dam over two miles downstream to west of the point discharge from the Govalle Wastewater Treatment Plant. The river bottom is easily seen (8 inches to nearly 5 feet) and aquatic life seems abundant and diverse. Another relatively clear area is a mile stretch from the gravel bar at the confluence of Boggy Creek at the north bank of Shelton Road peninsula to the confluence of Walnut Creek. This area evidences abundant and diverse aquatic life. While river water is clear in these two areas, shoreline litter, site disturbance and urban encroachments are easily observed.

Low Water Dirty—The river runs translucent to opaque for 1½ miles from west of the Govalle Treatment Plant discharge point to the gravel bar above the Boggy Creek confluence at the north bank of Shelton Road peninsula. Particulate pollution is evident with frequent areas of surface film at quiet, south shoreline cachements. A clear demarcation of aquatic vegetation occurs at the beginning and ending point of this zone; the filtration provided by aquatic plants appears significantly diminished and no expansive gravel bar exists to provide natural aeration. The wastewater treatment plant and private resource extraction contribute to the unclean appearance of the water. The river channel has been dredged for a portion of this section.

Released Water—As the demand for hydroelectricity and irrigation is announced, the Lower Colorado River Authority (LCRA) releases 3045 cubic feet per second (cfs) at Tom Miller Dam. Clear water flows into the contin-

Actions Affecting Colorado River Corridor Water Quality

- City and private construction and maintenance activities.
- Direct discharge of septic sewers, and urban runoff.
- Toxic spills and accidents in the watershed.
- Stormwater pollutant loadings from untreated sewage, stored materials, and petroleum.
- Surface runoff of chemical treatment associated with manu facturing and maintenance activities.
- Increased sediment loads in Country Club, Boggy and Walnut Creeks as a result of construction activities.
- Shoreline litter and unauthorized household dumping.
- Temporary inundation of land during water release.
- Upstream land use activities affecting Highland Lakes.
- Resource extraction activities including vegetation removal, machinery maintenance and soil compaction.

Source: *Parks and Recreation Department*

Peak Discharge vs. Frequency Existing Conditions

Confluence at Colorado River	Peak Discharge in Cubic Feet per Second		
	10 year	50 year	100 year
Country Club Creek	4,070	5,900	6,400
Boggy Creek	9,420	15,910	18,540
Walnut Creek	10,400	17,000	20,500

- **Cubic feet per second**—A cubic foot equals about 7.5 gallons. One cubic foot per second is equivalent to 448.86 gallons per minute.
- 10 year flood—A flood that, over a long period of time, can be expected to be exceeded an average of once for each 10 years. There is a 10 percent probability that the 10 year flood will be exceeded in any given year.
- **50 year flood**—A flood that, over an extremely long period of time, can be expected to be exceeded an average of once for each 50 years. There is a 2 percent probability that the 50 year flood will be exceed in any given year.
- **100 year flood**—A flood that, over an extremely long period of time, can be expected to be exceeded an average of once for each 100 years. There is a 1 percent probability that the 100 year flood will be exceeded in any given year.

Source: *Department of Housing and Urban Development*
Travis County Federal Insurance Administration

uous level Town Lake pool and flows over two tilt gates at Longhorn Dam. Normally, water is released on a daily seven hour period. The narrow river channel is swollen and a four foot high water mark on each shoreline is easily observed. The river runs briskly, inundating the shallows and creating nine distinct areas of rapids. Shoreline debris is rarely evident until water recedes and tree branches are adorned with garbage and debris. Warning signs are located on dam wings but no warning sirens are blown during normal water releases. The public may telephone LCRA for tentatively scheduled water release times and duration.

At Flood—Localized rains may swell the lower river from Boggy Creek downstream.

Memorial Day Flood Impact on Colorado River
10 p.m. May 24, 1981—9:30 a.m. May 25, 1981

Time	Cubic feet/sec	Cubic feet Spillage
10:00 p.m.	3,980	7,164,000
10:30 p.m.	7,960	14,328,000
11:00 p.m.	7,960	7,164,000
11:15 p.m.	17,020	15,318,000
11:30 p.m.	25,420	22,878,000
11:45 p.m.	33,820	30,438,000
12:00 mn	42,220	37,980,000
12:15 a.m.	50,620	45,540,000
12:30 a.m.	59,020	53,118,000
12:45 a.m.	67,420	60,660,000
1:00 a.m.	67,420	242,640,000
2:00 a.m.	67,420	242,640,000
3:00 a.m.	67,420	242,640,000
4:00 a.m.	67,420	242,640,000
5:00 a.m.	67,420	242,640,000
6:00 a.m.	38,020	68,436,000
6:30 a.m.	7,960	28,656,000
7:30 a.m.	7,960	28,656,000
8:30 a.m.	7,960	28,656,000
9:30 a.m.	3,980	7,164,000

Source: *Electric Department*

The Country Club Creek drainage area is rather insignificant with little impact on the river. If the Town Lake pool rises one foot and no water is being released for hydro-electric generation, approximately 4310-8620 cfs of water can be released. The one foot pool rise significantly impacts the river as runoff and debris from the upper creeks join that from Country Club and Boggy Creeks. At the confluence with Walnut Creek the river impact is greatly increased due to extent of the drainage area. During normal heavy rainfalls and flashfloods, peak discharge of Boggy Creek may approach 3560 cfs, and nearly 5,000 cfs at Walnut Creek. The flood discharge exacerbates river pollution, especially in fecal coliforms. When the flooding is regional rather than localized, LCRA will release water at Tom Miller Dam and the City of Austin must also raise the seven flood gates (water flows beneath gates rather than over gates). The river then becomes threatening and an immediate danger.

Visual Context

The tranquil, aesthetic quality of the river corridor is harshly interrupted by industrial encroachment. Views along the shorelines change with river complexion, yet constants include sporadic views of massive riparian and mesic vegetation particularly at creek confluences, of inviting gravel bars at jutting peninsulas, unauthorized dumping of household garbage and debris over river bluffs and on vacant lots, excessive litter under the Montopolis Bridge, distant urban skyline settings, and areas of severely disturbed shoreline from resource extraction. A capitol view corridor exists from the southwestern border of Grove Mobile Home Park.

Montopolis Zone—A high steep bluff on the north shore of the river extends from Longhorn Dam to the end of Red Bluff Road. A steep bank on the south shore, immediately below the dam, softens to a gradually sloping bank. The natural sloping becomes a steep terrace at Grove Park until it joins a rock facing immediately west of Montopolis Bridge. Gradual sloping on both shorelines extends throughout the remainder of this zone.

Treatment Plant and Aggregate Zone—Pocked by resource extraction activity, the high terrace is relatively flat land with alluvial soils (sandy loams) deposited over the years by flood water. Two large ponds are nearly 30′ deep; three smaller ponds attract migratory waterfowl. This 1 mile zone is greatly disturbed with no visible restoration or revegetation. A gravel pit on the north shore is contiguous with the river and is off-limits to the public despite the absence of "No Trespassing" signs.

Boggy-Walnut Creek Zone—The high terrace continues through this zone contrasting with belts of peninsulas, gravel bars and broader shoreline vegetation. Extraction areas continue on both terraces, yet the riverbanks appear generally undisturbed. Opposite the Walnut Creek confluence, a gravel pit is contiguous with the river, is off-limits to the public and is not marked "No Trespassing."

Because the lower Colorado River within the Town Lake Corridor is subject to frequent and lengthy water release and because it assumes a variety of complexions, the visual context is unstable yet inviting. For the most part the river is sought out as a dramatic yet restful resource. The river, without doubt, has character.

Hydrology

Longhorn Dam crosses the Colorado River, downstream from the Holly Power Plant. The dam is bridged by Pleasant Valley Road. This is the location of an old cattle crossing in the days of the big cattle drive in Texas in the 1860's and 70's.

The dam is 506 feet long and contains about 30,000 cubic yards of concrete. The roadway across the top of the dam is 48 feet wide with a 5 foot sidewalk down each side. The original capacity of 3,520 acre feet was increased to about 6,000 acre feet due to dredging operations which were started in 1960 and continued until 1975.

Water level above the dam is controlled by seven flood gates, each 50 feet wide and 13 feet high, and two Bascule gates are used for the normal control of the level of Town Lake to the elevation of 428 feet above sea level. These gates raise and lower automatically through use of an automatic hydraulic control system. The elevation of the gates is controlled by the amount of water flow in the river.

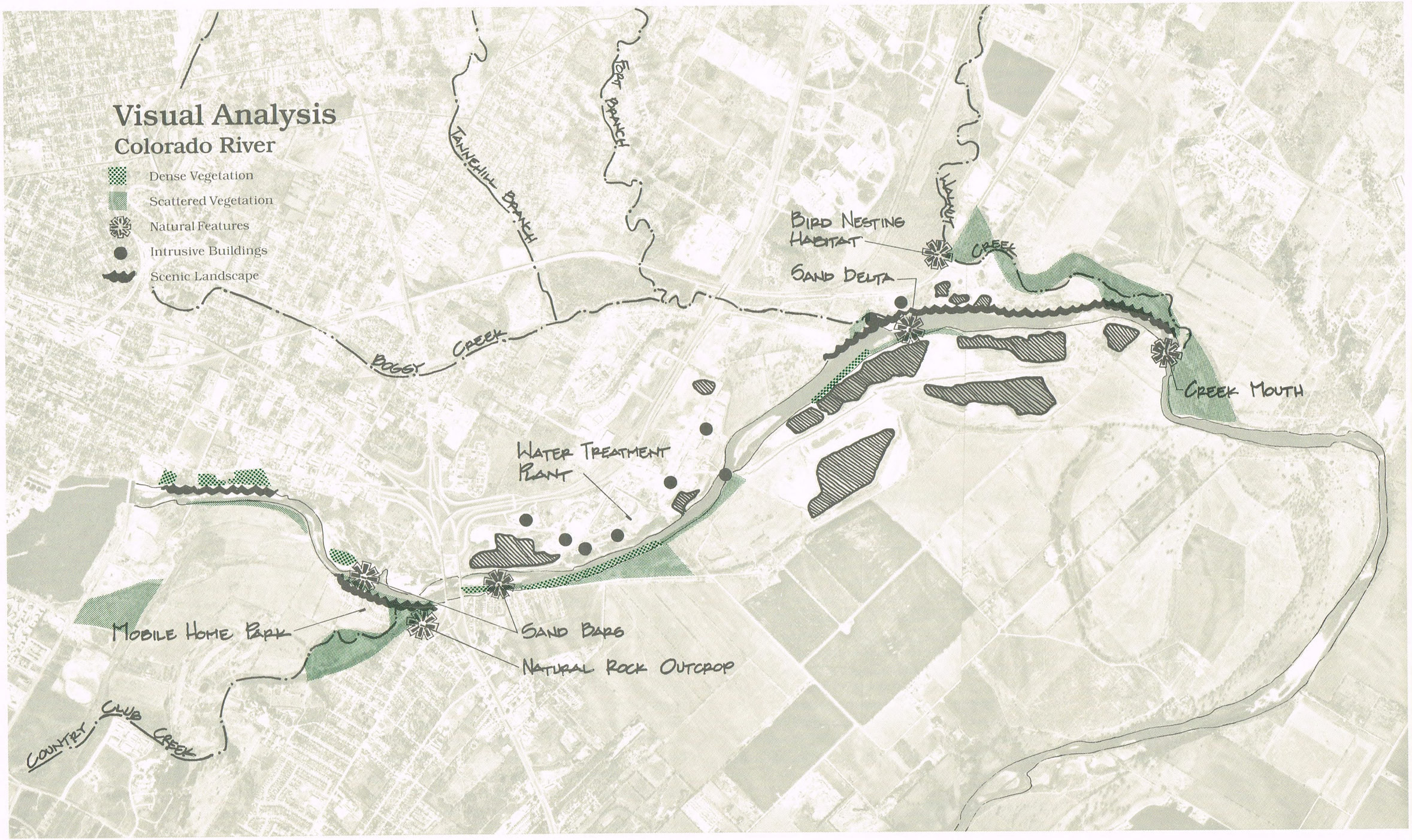
Flow through Town Lake is controlled by the Lower Colorado River Authority in the operation of a series of upstream dams. The most immediate upstream dam is the Tom Miller Dam impounding Lake Austin. Maximum release from Tom Miller Dam during normal generation is about 3,045 cubic feet per second. When there is no release of water from Tom Miller Dam, there is negligible to no flow over the Longhorn Dam spillway since the only discharges into Town Lake proper are from storm drains and creeks located in this area, the major discharge from this source being Barton Creek. Longhorn Dam total maximum spillway discharge of all gates (with lake elevation of 429.0 feet MSL) is 67,420 cu.ft/sec.

Source: *Electric Department*

Visual Analysis

Colorado River

- Dense Vegetation
- Scattered Vegetation
- Natural Features
- Intrusive Buildings
- Scenic Landscape



Natural Resources

The name Colorado, meaning red, is a misnomer as the water is generally clear and has been so historically. Plants and animals normally found far to the east or on the coast have penetrated deeply into dry central Texas along the green corridor supported by the river. The deep shade of once thick forests still cover some stretches of river bank. During spring and fall the area below the Montopolis Bridge is a quiet resting place for numerous migratory waterfowl. This fragile water system and its streambed is the most environmentally sensitive area; portions of disturbed bluff and high terrace areas also have particular sensitivity.

Natural Values—Topographic relief is assumed to be positively correlated with ecological and aesthetic value. This section of the river has extraordinary appeal with its contrasting gradually sloping banks and steep bluffs.

Accordingly, the floral condition in this five mile section is transitional based on the structure, naturalness, and diversity of the flood plain vegetation. While portions of the more serevely disturbed banks are lined with small willows, cattails, and other vegetation in a narrow belt, there are borders of large mature trees, grasses and herbaceous growth with several species of trees and shrubs forming dense wooded habitats. A stable "climax" floral condition is not evident in this river corridor.

The *Montopolis Area Study* (1985) prepared by the Office of Land Development Services includes the following Corridor description:

"The scene is that of the Colorado River in early days: gravel and sandy bars, shallower waters easily fished by many species of water fowl and other birds, beds of submerged aquatic plants, and trees overhanging the banks. . .

. . . numerous birds . . . are highly unusual to the urban scene one mile upstream: American bittern, great-blue and green-backed herons, several hawk species and belted kingfish. . .

The Colorado River below Longhorn Dam has long been known by Travis Audubon Society members as an excellent local area for sightings of osprey, and occasional sightings of eagles and peregrine falcons, during the migration seasons. This is due to its relatively undisturbed nature, i.e. undammed and shallow with riverine plant communities lining the banks.

There are several coves, islands, and sand and gravel bars among which birds seclude themselves for fishing and resting. Testimony to the excellent wildlife foraging is the extensive blanket of opened fresh-water clam shells left in the water's edge of the bars.

(East of) *the Grove Trailer Park and within site of Longhorn Dam longer stretches of the banks are even less disturbed and are thick and lushly vegetated; pecan trees are more prevalent. Occasionally a more recently disturbed portion is dominated by box elder. Silty deposits along the stream edge support emergent rushes, grasses, sedges and elephant ears. Visible clumps of submerged aquatic plants dot the stream bed. . . . The trees of substance and greatest age are the ashes."*

The faunal condition is based on the naturalness and diversity of the animal assemblage. In the Montopolis zone the major elements are man-associated species and tolerant aquatic species. The unclean treatment plant and aggregate zone has evidence of skunk, raccoon, nutria and opossum as well as domestic animals. White-tail deer are sighted in the Boggy-to-Walnut Creek Zone but do not appear in abundant numbers.

For the most part the river supports a generous floral condition, a viable population of birdlife, native mammals, reptiles, amphibians, and diverse fishes.

Environmentally Sensitive Areas—Competition in the river corridor among land users, their machinery and chemicals impacts existing terrestial environments and the most fragile environment, the water. Natural values in the corridor are placed in a no-win situation; the City could provide the positive intervention necessary to secure the area.

The riverbeds in the Montopolis and Boggy-Walnut zones are sensitive with respect to the gravel shallows, animal life depending on the waterbanks, and most food sources.

The shorelines in both zones are in various stages of recovery which will continue to create even more environmentally sensitive areas. Resident birds and nesting materials are endangered in all zones. Resource extraction ponds in the treatment plant and aggregate zone contain surface water essential to waterfowl.

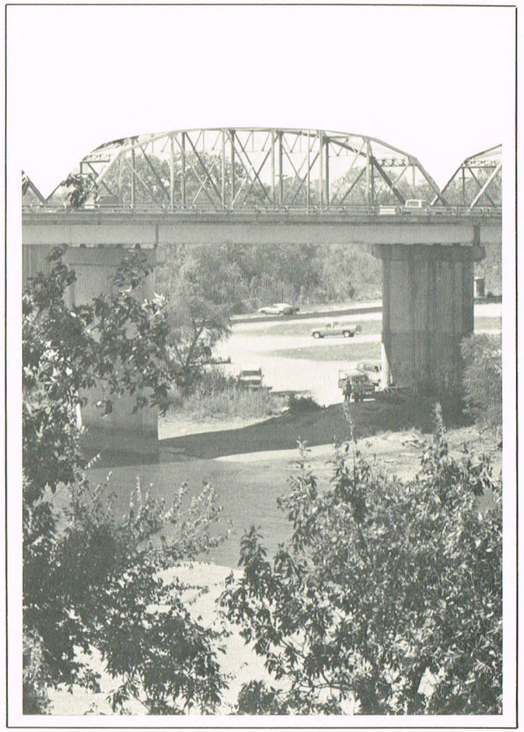
Bluff areas in the Montopolis zone have been disturbed and warrant significant attention for protection and preservation. The same holds true for the creek mouths in the corridor.

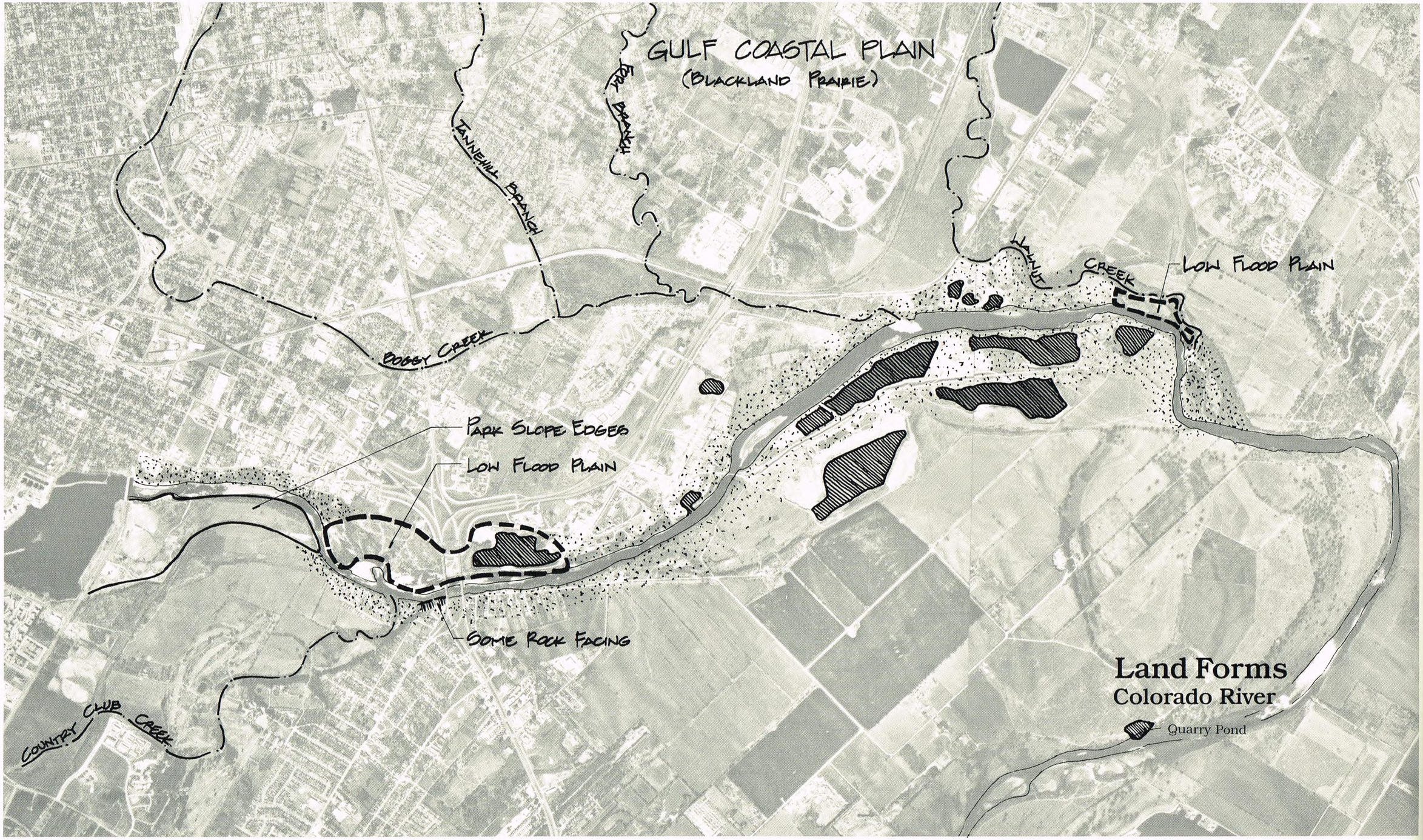
The water environment is in constant jeopardy. Downstream disturbance in the treatment plant and aggregate zone must be minimized in recognition of the impact on the Boggy-Walnut Creek zone.

Colorado River Corridor
Partial Botanical Inventory

Aristida grasses	Palofoxia
Ash	*Papalum* grasses
Box elder	Pecan
Bristle grass	Pennywort
Bulrush	Peppervine
Chaste-tree	*Potomogeton* (4 species)
Chinaberry	Ragweed
Composites	Rattle box
Cottonwood	River cane (Arundo)
Cypress	River hemp
Dewberry	Rushes
Elephant ears	Sedges
Elm species	Streambank morning glory
Grapevines	Switchgrass
Jeruselem thorn tree	Sycamore
Maximillian sunflower	Virginia creeper
Mulberry species	Willow

Source: ***Montopolis Area Study***, 1985, *Office of Land Development Services*




GULF COASTAL PLAIN
(BLACKLAND PRAIRIE)
TANNEHILL BRANCH
FOX BRANCH
BOGGY CREEK
WALNUT CREEK
LOW FLOOD PLAIN
PARK SLOPE EDGES
LOW FLOOD PLAIN
SOME ROCK FACING
COUNTRY CLUB CREEK
Land Forms
Colorado River
Quarry Pond

ZONING HISTORY
Sub Area F

Case No.	Acreage	Sub Area	Action PC	Action CC	Action Ord.	Requested Zoning	Granted Zoning or Other Action
1 C14-82-072	115.2		x	x	x	D, 3rd and D, 1st	D, 3rd and D, 1st in accordance with existing structures.
2 C14p-83-071	30.8		x	-	-	Special Permit	CIP improvements to Govalle Wastewater Treatment Plant
3 C14-84-429	90.3		x	x	-	DL, 1st	DL, 1 pending ROW dedication